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**SYMPOSIUM ON SCIENCE AND SOCIETY: LOW LEVEL RADIOACTIVE WASTE
CONTROVERSY AND RESOLUTION
Committee on Public Health**

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QUESTIONS AND ANSWERS*

PARTICIPANT. The collective thrust of what we heard from our scientific and technical speakers of exceptionally good quality, background, experience, and association this morning is, to summarize in one line, that the resistance to low level radioactive waste disposal sites is in fact a kind of a political issue generated by environmentalists and people who don't understand the question, and really that the overall problem is, from a scientific and engineering view, a trivial one. This has been the general bottom-line thrust of what we have heard.

I would like to take exception to that point of view from the following, not going into any exhaustive detail with respect to some of the questions raised. For example, Dr. Eisenbud mentioned that there were jurisdictions which have taken exception to the permissible burning of tritium and carbon-14 wastes in certain states. One of those jurisdictions is the City of New York. I don't want to go into any exhaustive detail of why the City of New York has taken that posture, but it is in my judgment a wholly-deserved and warranted one based upon the history of what we have been exposed to in a number of different areas connected with the various nuclear establishments. The WIPP disposal site just this past month, after exhaustive study by experts of the Department of Energy, suddenly has been brought into question. The WIPP site, of course, is a high level waste site. All of a sudden we learn that after tremendous penetration, WIPP has been called into serious question.

Now my question to the panel: Since a fair amount of the low level waste seems to be identified with utilities and manufacturers, is it possible that we might be considering some segregation of sites with respect to medical waste, which everybody agrees is of favorable and desirable and relatively innocuous kinds of materials, and wastes that are generated by the utilities and the manufacturers?

DR. HOUK. My message was not that these issues are being decided by the lunatic fringe, which is what I think you implied. These issues are extremely complex, difficult issues. Another one I am dealing with is the demilitarization of the nerve gas systems in this country around seven communities and

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that is a little bit more emotional. The problem is, as Dr. Covello said, that the community is not informed and we have not informed the community. Helping them to make a rational decision is of extreme importance, if we can inform them in ways they can understand.

I believe the answer to these questions where science is involved is impeccable science where that exists. If we don't know the answer, say so. That is marketing, which is putting science in understandable terms for the policy-maker and the community, and then selling it to them. The third is openness and recognition that the public's business should be done in 1 public and not behind closed doors and it should be done with public participation.

By no means do I think it part of the scientific process—where we have failed—when we have communities mobilized against issues like this. There are a few people who misdirect the science, there are a few politicians who like to cloak everything in science, and we should not allow that to happen.

DR. EISENBUD. The participant asked why the nuclear reactor sites couldn't be used to store the waste from the reactors. Point number one is that the reactors will be decommissioned in anywhere from 30 to 50 or 70 years. At the end of that time the decision will have to be made as to what should be done with the accumulated waste. Perhaps somebody might say, "Let's put a repository at the site." The problem is that a site suitable for a reactor may not be suitable for a low level waste repository for the reasons I enumerated.

DR. MAILLIE. You must keep in mind that in New York City part of the industrial contribution to this is Cintichem, which is also medical, and it is impossible to store Cintichem's waste on Cintichem's site. There is just no room for it. Following that suggestion, you would shut down the whole nuclear medicine industry in the United States.

PARTICIPANT. I am concerned, having been employed in 1962 in United Aircraft Research Labs at the beginning of the laser industry and being informed at the time of the various standards for exposures, that we have not reexamined our exposures in light of the new information coming from Chernobyl and other information we have.

Let me first address Dr. Houk. You speak of all the various ways of considering morbidity and costs but you speak of one lifetime. You don't address the question of more than one lifetime. The public, as I am aware, is concerned about not having anybody ever around to remember them. We would like to address the risk beyond the one lifetime and the mortality and morbidity figures. I was wondering if you had in your various activities addressed this.

DR. HOUK. I think this is an inappropriate place to discuss nuclear warfare. All of us have our own personal views on that sort of thing. However, using the radiation devices, using nuclear energy I can understand why an individual or a community is concerned about the risk to that community. I think that if one looks very carefully at the generation of electricity, the riskiest modality is fossil fuel, the second riskiest way is steam. The least risky method or next least risky is hydroelectricity. The least risky way we know of today is nuclear.

PARTICIPANT. I thought it was solar.

DR. HOUK. That is a major misconception. Solar is very risky because of all the heavy metals that must be contained in the collection devices. That is a very bad misconception.

PARTICIPANT. Dr. Covello, when you mentioned your involvements, I wondered if you might be aware of how the \$6 million was distributed this past year by the nuclear industry to various public relations firms to make the public more accepting of the risks and to make them feel powerless to do anything about it? Have you been aware of these funds going to the public relations firms? Has yours been one of them?

DR. COVELLO. No. I am at Columbia University and we have received no monies at all from the Nuclear Regulatory Commission.

PARTICIPANT. From the nuclear industry?

DR. COVELLO. From the nuclear industry. Second, one of the basic points I was trying to make in my talk today is that risk communication is not public relations, not advertising, not attempting to manipulate public opinion. Instead, it is intended to be a two-way communication. The last chart I showed which talked about power sharing and working out joint problems between the public and government I think reflects general philosophy. Hiring a public relations firm to convince or manipulate or use advertising techniques for convincing the public, for example, to accept nuclear power facilities or radioactive waste is, I think, an inappropriate use of funds, public as well as private.